1

2   CLAIMS

3

4   We claim:

5

6   1. An environment aware message delivery system, comprising:

7

8   a portable message redirection agent carried by a user; and

9

10   a message delivery service manager for managing candidate message terminals to provide

11   message delivery services for the user, wherein when the user moving over to a place,

12   said message redirection agent cooperates with said message delivery service manager

13   located in the environment around the user to select a message terminal from candidate

14   message terminals in the environment as a target message terminal, and request a message

15   redirection entity to redirect the message addressed to the user to the target message

16   terminal.

17

18   2. A system according to claim 1, wherein said message redirection agent cooperates with

19   said message delivery service manager in the environment around the user by means of a

20   short range wireless communication network.

21

22   3. A system according to claim 2, wherein said short range wireless communication

23   network is Bluetooth wireless communication network.

24

25   4. A system according to claim 1, wherein said message redirection agent cooperates with

26   said message delivery service manager in the environment around the user by means of a

27   USB interface.

28

29   5. A system according to claim 1, wherein said message redirection agent runs in portable

1   pervasive computing devices such as cell phone or PDA.

2

3   6. A system according to claim 1, wherein said message redirection agent runs in Blue

4   badges.

5

6   7. A system according to claim 1, wherein said message redirection entity is PBX.

7

8   8. A system according to claim 1, wherein said message redirection agent comprises:

9   a message redirection service discoverer for sending service requests to said message

10 delivery service manager, and receiving service information from said message delivery

11 service manager;

12

13 a message redirection manager for maintaining a message redirection service list,

14 configuring message redirection policy and selecting the target message terminal; and

15

16 a message redirection requester for requesting message redirection service from the

17 message redirection entity.

18

19 9. A system according to claim 8, wherein said message delivery service manager

20 comprises:

21

22 a service request handler for authenticating the message redirection agent and sending

23 service information on-demand to the message redirection agent;

24

25 a service availability detector for checking the status of the candidate message terminals

26 in the environment and updating the message delivery service list according to the

27 checking result; and

28

29 a message delivery service configurator for configuring the available message delivery

1   services, such as authorizing who can access these services.

2

3   10. A system according to claim 9, wherein said message delivery service manager

4   further comprises a service advertiser for periodically sending service information to

5   nearby message redirection agents.

6

7   11. A system according of claim 1, wherein said message redirection agent comprises a

8   message redirection service discoverer for sending service requests to said message

9   delivery service manager.

10

11   12. A system according to claim 11, wherein said message delivery service manager

12   comprises:

13

14   a service request handler for authenticating the message redirection agent;

15

16   a service availability detector for checking the status of the candidate message terminals

17   in the environment and updating the message delivery service list according to the

18   checking result;

19

20   a message delivery service configurator for configuring the available message delivery

21   services, such as authorizing who can access these services, and selecting the target

22   message terminal on behalf of the message redirection agent making the service requests;

23   and

24

25   a message redirection requester for requesting message redirection service from the

26   message redirection entity.

27

28   13. A system according to any of claims 1-7, wherein said message redirection agent

29   comprises:

1

2 a message redirection service discoverer for sending service requests to said message

3 delivery service manager, and receiving service information from said message delivery

4 service manager; and

5

6 a message redirection manager for maintaining message redirection service list,

7 configuring the message redirection policy and selecting the target message terminal.

8

9 14. A system according to claim 13, wherein said message delivery service manager

10 comprises:

11

12 a service request handler for authenticating the message redirection agent and sending

13 service information on-demand to the message redirection agent;

14

15 a service availability detector for checking the status of the candidate message terminals

16 in the environment and updating the message delivery service list according to the

17 checking result;

18

19 a message delivery service configurator for configuring the available message delivery

20 services, such as authorizing who can access these services; and

21

22 a message redirection requester for requesting message redirection service from the

23 message redirection entity according to the request of the message redirection agent.

24

25 15. A system according to claim 1, wherein said system comprises a plurality of message

26 delivery service managers, running in various message terminals respectively.

27

28 16. A system according to claim 15, wherein said message redirection agent comprises:

29

1   a message redirection service discoverer for sending service requests to said message

2   delivery service manager, and receiving service information from said message delivery

3   service manager;

4

5   a message redirection manager for maintaining message redirection service list,

6   configuring the message redirection policy and selecting the target message terminal; and

7

8   a message redirection requester for requesting message redirection service from the

9   message redirection entity.

10

11 17. A system according to claim 16, wherein said message delivery service manager

12 comprises a service request handler for authenticating the message redirection agent and

13 sending service information on-demand to the message redirection agent.

14

15 18. A system according to claim 17, wherein said message delivery service manager

16 further comprises a service advertiser for periodically sending message redirection service

17 information to nearby message redirection agents.

18

19 19. A system according to claim 15, wherein said message redirection agent comprises:

20

21 a message redirection service discoverer for sending service requests to said message

22 delivery service manager, and receiving service information from said message delivery

23 service manager; and

24

25 a message redirection manager for maintaining message redirection service list,

26 configuring the message redirection policy and selecting the target message terminal.

27

28 20. A system according to claim 19, wherein said message delivery service manager

29 comprises:

1

2 a service request handler for authenticating the message redirection agent and sending

3 service information on-demand to the message redirection agent; and

4

5 a message redirection requester for requesting message redirection service from the

6 message redirection entity according to the request of the message redirection agent.

7

8 21. An environment aware messages delivery method, comprising the steps of:

9

10 making information interaction with a message delivery service manager in the

11 environment around a user by a portable message redirection agent carried by the user,

12 wherein interacted information comprises information on candidate message terminals;

13

14 selecting a message terminal from the candidate message terminals in the environment as

15 a target message terminal; and

16

17 requesting a message redirection entity to redirect a message addressed to the user to the

18 target message terminal.

19

20 22. A portable message redirection agent, characterized by:

21 when a user mover over to a place, said portable message redirection agent being carried

22 by the user cooperating with a message delivery service manager in the environment

23 around the user, selects a message terminal from candidate message terminals in an

24 environment of the user, as a target message terminal and requests a message redirection

25 entity to redirect a message addressed to the user to the target message terminal.

26

27 23. A message delivery service manager, characterized by:

28 when a user moves over to a place, said message delivery service manager in the

29 environment around the user cooperating with a portable message redirection agent

1   carried by the user, selects a message terminal from the candidate message terminals in

2   the environment as a target message terminal and requests a message redirection entity to

3   redirect the message addressed to the user to the target message terminal.

4

5   24. An article of manufacture comprising a computer usable medium having computer

6   readable program code means embodied therein for causing environment aware messages

7   delivery, the computer readable program code means in said article of manufacture

8   comprising computer readable program code means for causing a computer to effect the

9   steps of claim 21.

10

11   25. A program storage device readable by machine, tangibly embodying a program of

12   instructions executable by the machine to perform method steps for environment aware

13   messages delivery, said method steps comprising the steps of claim 21.

14

15   26. A computer program product comprising a computer usable medium having

16   computer readable program code means embodied therein for causing environment aware

17   messages delivery, the computer readable program code means in said computer program

18   product comprising computer readable program code means for causing a computer to

19   effect the functions of claim 1.

20

21   27. A computer program product comprising a computer usable medium having

22   computer readable program code means embodied therein for causing message delivery

23   service management, the computer readable program code means in said computer

24   program product comprising computer readable program code means for causing a

25   computer to effect the functions of claim 23.